

Appl. No. : 09/316,518
Filed : May 21, 1999

REMARKS

This supplemental response is filed in substitution for the response filed August 22, 2003. The August 22, 2003 response did not show the claim amendments by underlining and strikethrough.

After entry of the foregoing amendments, Claims 14-51, 70-73 and 78-96 are pending in the application. By the foregoing amendments, Claims 52-69 and 74-77 have been cancelled without prejudice or disclaimer and Claims 24, 42, 48, 73, 88 and 92 have been amended. In the outstanding Office Action, Claims 78-87 were allowed. Reconsideration and further examination of the pending claims in view of the foregoing amendments and the following remarks, it is respectfully requested.

Rejections Under § 102

In the Office Action, Claims 24, 26-38, 42-48, 50-60, 62-69, 72, 74-77 and 88-91 were rejected under 35 U.S.C. § 102(e) as being anticipated by Papadopoulos (U.S. Patent No. 5,594,720). Applicant reserves the right to challenge whether Papadopoulos is available as prior art against the current application.

Papadopoulos is generally directed to a method for reducing co-channel interference in a multiple access cellular communication system. Papadopoulos appears to teach adjusting the split between the uplink and downlink in a TDD system based on instantaneous user requests. The adjustment of the uplink/downlink split is further constrained such that only a portion of the available slots are dynamically allocated in accordance with user requests. Papadopoulos, Abstract. Papadopoulos does not appear to address in any manner allocation based on class of service. In addition, the changes in the allocation of the uplink/downlink split appear to only be reactive and are never forward looking or predictive.

One aspect of the present invention relates to allocating a fixed frame between uplink and downlink based on a prediction of the uplink and downlink requirements of the communication system. For example, amended Claim 1 includes the step of predicting an uplink bandwidth requirement and a downlink bandwidth requirement based upon associated bandwidth utilization parameters. The actual allocation ratio is then calculated using that prediction. One advantage of predicting or allocating the uplink/downlink split in a forward-looking manner is that it allows for multi-cellular systems to maximize reuse by having time to negotiate uplink and downlink splits. A system that is reactive, that is, responds to demands for bandwidth, would not provide

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the quality of service and be able to allow different cell sites to negotiate or maximize their reuse patterns. Papadopoulos has no teachings or suggestions of a method or system which predicts uplink and downlink requirements based upon bandwidth utilization parameters, and then uses that prediction to calculate and allocate uplink and downlink.

Similarly, Claims 42, 48 and 88 all include limitations directed to predicting the uplink/downlink split, and then using that prediction to determine the split. Therefore, Applicant respectfully requests that the rejections of the claims in view of Papadopoulos be withdrawn.

In the outstanding Office Action, Claims 70, 71 and 73 were rejected under § 102(e) as being anticipated by Raith (U.S. Patent No. 5,729,531). Applicant reserves the right to challenge whether Raith is available as prior art against the present application.

Raith describes a system for allocating mobile stations to a limited number of channels. Raith can generally be described as addressing issues of call admission. Raith does not appear to teach or describe using initially known connection information, for example, quality of the service, for adjusting the uplink or the downlink.

Claim 70 is a method for monitoring and updating uplink and downlink bandwidth. Claim 70 requires, *inter alia*, initializing the base station with an initial set of bandwidth utilization parameters including a first estimate of the uplink and downlink bandwidth requirements of at least one CPE. The claim also includes updating the initial set of bandwidth utilization parameters based upon monitoring of utilization. In other words, the uplink/downlink split's prediction is adjusted based upon actual utilization, not in response to requests for bandwidth. Raith does not teach or suggest such a method.

Similarly, Claim 73 is directed to a method which includes predicting an initial uplink/downlink split for the system. Then, based upon utilization, that split is adjusted. Again, Raith does not teach predicting an initial uplink/downlink split and then adjusting that split based upon utilization. Therefore, Applicant requests that all of the rejections in view of Raith be withdrawn.

Rejections Under § 103

In the Office Action, Claims 25, 39-41, 49, 61 and 92-96 were rejected under 35 U.S.C. § 103 as being unpatentable over Papadopoulos in view of Raith. As each of those claims depends from one of the independent claims addressed above, Applicant submits that each of

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those rejected claims is patentable at least for the reasons discussed above in connection with its respective parent claim.

Conclusion


The Applicant has endeavored to address all of the Examiner's concerns as expressed in the outstanding Office Action. Accordingly, amendments to the claims, the reasons therefor, and arguments in support of the patentability of the pending claim set are presented above. Any claim amendments which are not specifically discussed in the above remarks are made in order to improve the clarity of claim language, to correct grammatical mistakes or ambiguities, and to otherwise improve the capacity of the claims to particularly and distinctly point out the invention to those of skill in the art. In light of the above amendments and remarks, reconsideration and withdrawal of the outstanding rejections is specifically requested. If the Examiner finds any remaining impediment to the prompt allowance of these claims that could be clarified with a telephone conference, the Examiner is respectfully requested to initiate the same with the undersigned.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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Dated: 8/29/03

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